WHAT IS CLAIMED IS:

1. An apparatus for shifting a movable platen between a resting position and an actuated position, the apparatus comprising:

(a) means for suspending said movable platen from a stationary housing to allow movement of said movable platen between said resting and said actuated positions;

(b) a lever member pivoted at a flexure element, said flexure element being coupled to said stationary housing, the position of said flexure element along said lever member defining:

(i) a working arm of said lever member between said flexure element and the movable platen; and

(ii) an effort arm of said lever member between said flexure element and the point of contact of an actuator; and

said effort arm driven by said actuator to shift said movable platen from said resting position to said actuated position, such that the travel distance of said movable platen between said resting position and said actuated position is proportional to the ratio of the length of said working arm to the length of said effort arm.

2. An apparatus for shifting a movable platen according to claim 1 further comprising a return spring in contact with said effort arm.

3. An apparatus for shifting a movable platen according to claim 1 wherein said actuator is a piezoelectric actuator.

4. An apparatus for shifting a movable platen according to claim 1 wherein said actuator is an electromagnetic actuator.

5. An apparatus for shifting a movable platen according to claim 1 further comprising adjustment means for said actuator.

6. An apparatus for shifting a movable platen according to claim 1 wherein said flexure element comprises a torsional flexure.

7. An apparatus for shifting a movable platen according to claim 1 further comprising a spring disposed for applying a damping force between said stationary housing and the movable platen.

8. An apparatus for shifting a movable platen according to claim 1 further comprising a spatial light modulator attached to said platen.

9. An apparatus for shifting a movable platen according to claim 1 further comprising a charge-coupled device attached to said platen.

10. An apparatus for shifting a movable platen according to claim 1 wherein the surface of the platen is substantially within the same plane at both said resting position and said actuated position.

11. An apparatus for shifting a movable platen according to claim 1 wherein said working arm and said effort arm are non-overlapping, the position of said flexure element along said lever member defining a first class lever thereby.

12. An apparatus for displacing a movable platen in first and second directions, substantially within the fixed plane of the surface of the platen, the apparatus comprising:

(a) means for suspending the movable platen from a stationary housing to allow movement within the fixed plane;

(b) a first actuator for providing a first displacement along the first direction and a second actuator for providing a second displacement along the second direction;

(c) a lever member pivoted at a flexure element, said flexure element being coupled to said stationary housing, the position of said flexure element along said lever member defining:

(i) a working arm of said lever member between said flexure element and the movable platen;

(ii) an effort arm of said lever member between said flexure element and the point of contact of said first actuator; and

said effort arm driven by said first actuator and by said second actuator, such that the travel distance of said movable platen relative to said first displacement of said first actuator is proportional to the ratio of the length of said working arm to the length of said effort arm.

13. An apparatus for displacing a movable platen according to claim 12 wherein said first and second directions are, respectively, orthogonal within the fixed plane.

14. An apparatus for displacing a movable platen according to claim 12 wherein said first displacement is linear.

15. An apparatus for displacing a movable platen according to claim 12 further comprising a return spring in contact with said effort arm.

16. An apparatus for displacing a movable platen according to claim 12 wherein said first actuator is a piezoelectric actuator.

17. An apparatus for displacing a movable platen according to claim 12 wherein said first actuator is an electromagnetic actuator.

18. An apparatus for displacing a movable platen according to claim 12 further comprising adjustment means for said first actuator.

19. An apparatus for displacing a movable platen according to claim 12 wherein said flexure element comprises a torsional flexure.

20. An apparatus for displacing a movable platen according to claim 12 further comprising a spring disposed for applying a damping force between said stationary housing and the movable platen.

21. An apparatus for displacing a movable platen according to claim 12 further comprising a spatial light modulator attached to said platen.

22. An apparatus for displacing a movable platen according to claim 12 further comprising a charge-coupled device attached to said platen.

23. An apparatus for displacing a movable platen according to claim 12 wherein said working arm and said effort arm are non-overlapping, the position of said flexure element along said lever member defining a first class lever thereby.

24. An apparatus for providing a linear displacement to a movable platen in a first direction comprising:

(a) means for suspending said movable platen from a stationary housing to allow movement between a resting position and an actuated position in the first direction;

(b) an actuator for providing an initial linear displacement along said first direction;

(c) a lever member pivoted at a flexure element, said flexure element comprising an annular structure within which said lever member is seated to define a pivot point,

said pivot point defining:

(i) a working arm of said lever member between said flexure element and the movable platen;

(ii) an effort arm of said lever member between said flexure element and the point of contact of said actuator; and

said effort arm driven by said actuator, such that the travel distance of said movable platen relative to said initial linear displacement is proportional to the ratio of the length of said working arm to the length of said effort arm.

25. An apparatus for providing a linear displacement according to claim 24 wherein said flexure element comprises a plurality of spaced apart, tangentially extended mounting arms for constraining torque about the central axis of said lever member.

26. An apparatus for providing a linear displacement according to claim 24 further comprising a return spring in contact with said effort arm.

27. An apparatus for providing a linear displacement according to claim 24 wherein said actuator is a piezoelectric actuator.

28. An apparatus for providing a linear displacement according to claim 24 wherein said actuator is an electromagnetic actuator.

29. An apparatus for providing a linear displacement according to claim 24 further comprising adjustment means for said actuator.

30. An apparatus for providing a linear displacement according to claim 24 wherein said flexure element comprises a torsional flexure.

31. An apparatus for providing a linear displacement according to claim 24 further comprising a spring disposed for applying a damping force between said stationary housing and the movable platen.

32. An apparatus for providing a linear displacement according to claim 24 further comprising a spatial light modulator attached to said movable platen.

33. An apparatus for providing a linear displacement according to claim 24 further comprising a charge-coupled device attached to said movable platen.

34. A method for displacing a movable platen substantially within a fixed plane between a resting position and an actuated position comprising:

(a) suspending the movable platen from a stationary housing to allow movement within the fixed plane;

(b) pivoting a lever member at a flexure element and coupling said flexure element to said stationary housing, the position of said flexure element along said lever member defining:

(i) a working arm of said lever member between said flexure element and the movable platen;

(ii) an effort arm of said lever member between said flexure element and the point of contact of said first actuator; and

(c) urging said effort arm by an actuator, such that the travel distance of said movable platen between the resting position and the actuated position is proportional to the ratio of the length of said working arm to the length of said effort arm.

35. A method for displacing a movable platen according to claim 34 wherein the step of pivoting said lever member at said flexure element defines a first-class lever.

36. A method for displacing a movable platen according to claim 34 wherein the step of suspending comprises the step of mounting a plurality of taut wires between said stationary housing and the movable platen.

37. A method for displacing a movable platen according to claim 34 wherein the step of urging said effort arm comprises the step of actuating a piezoelectric actuator.

38. A method for displacing a movable platen according to claim 34 wherein the step of urging said effort arm comprises the step of actuating an electromagnetic actuator.

39. A method for displacing a movable platen according to claim 34 further comprising the step of attaching a spatial light modulator to said movable platen.

40. A method for displacing a movable platen according to claim 34 further comprising the step of attaching an image sensor to said movable platen.

41. A method for displacing a movable platen in first and second directions, substantially within the fixed plane of the surface of the platen, the method comprising:

(a) suspending the movable platen from a stationary housing to allow movement within the fixed plane;

(b) mounting a first actuator for providing a first displacement along the first direction and a second actuator for providing a second displacement along the second direction;

(c) pivoting a lever member at a flexure element and coupling said flexure element to said stationary housing, the position of said flexure element along said lever member defining:

(i) a working arm of said lever member between said flexure element and the movable platen;

(ii) an effort arm of said lever member between said flexure element and the point of contact of said first actuator; and

(d) urging said effort arm by said first actuator and by said second actuator, such that the travel distance of said movable platen relative to said first displacement of said first actuator is proportional to the ratio of the length of said working arm to the length of said effort arm.

42. A method for displacing a movable platen according to claim 41 wherein the step of suspending comprises the step of mounting a plurality of taut wires between said stationary housing and the movable platen.

43. A method for displacing a movable platen according to claim 41 wherein the step of mounting a first actuator further comprises the step of positioning a spring for applying a resistive force against said effort arm.

44. A method for displacing a movable platen according to claim 41 wherein the step of urging said effort arm comprises the step of actuating a piezoelectric actuator.

45. A method for displacing a movable platen according to claim 41 wherein the step of urging said effort arm comprises the step of actuating an electromagnetic actuator.

46. A method for displacing a movable platen according to claim 41 further comprising the step of attaching a spatial light modulator to said movable platen.

47. A method for displacing a movable platen according to claim 41 further comprising the step of attaching an image sensor to said movable platen.